

CLAIMS

WHAT IS CLAIMED IS:

1. An air passage switching device for opening and closing at least one air passage comprising:

a sliding door that slides along an opening face of the air passage, the sliding door further comprising a film member that presses against an edge seal face and end faces of the opening, said sliding door including a door supporting the film member, the door having openings that allow a draft pressure to pass therethrough and act on the film member;

elastic pressing means that elastically presses the film member against the edge seal faces of the air passages and the end faces of the openings; and

a opening spacing defined as a spacing between the door and the end faces of the opening, said door spacing being at a center of the air passage along an orthogonal direction to the sliding direction of the sliding door, an edge seal face spacing defined as a spacing between said edge seal faces at ends of the air passage and door, said ends being orthogonal to the sliding direction of the sliding door, said opening spacing being larger than said edge seal face spacing.

2. An air passage switching device according to claim 1, wherein a maximum value of the opening spacing is

set to a range such that an amount of elastic compression of said elastic pressing means after assembly is at least 0.

3. An air passage switching device according to claim 1, wherein the elastic pressing means comprises a plurality of slender elastic pressing means extending parallel with the sliding direction of the sliding door, said plurality of slender elastic pressing means disposed only in positions facing the edge seal faces of the air passage and the end faces of the opening.

4. An air passage switching device comprising:
a sliding door which slides along opening faces of the air passages, comprising:

grill members are formed on opening faces of the air passages, parallel with a sliding direction of the sliding door;

wherein the sliding door comprises a film member that presses against edge seal faces of the air passages and end faces of the grill members, said sliding door closing the air passages, said sliding door including a door plate supporting the film member, the sliding door including an elastic pressing means that elastically presses the film member against the edge seal faces of the air passages and end faces of the grill members;

wherein the door plate is provided with openings

that allow a draft pressure to act on the film member; and wherein the elastic pressing means comprise a plurality of slender elastic pressing means extending parallel with the sliding direction of the sliding door, said elastic pressing means disposed only at positions facing the edge seal faces of the air passages and the end faces of the grill members.

5. An air passage switching device, for opening and closing air passages by means of a sliding door which slides along opening faces of the air passages, wherein:

the sliding door comprises a film member, for pressing against edge seal faces of the air passages and closing the air passages, and a door plate supporting the film member;

the door plate is provided with openings for allowing a draft pressure to act on the film member; and

elastic pressing means for pressing the film member against the edge seal faces of the air passages with an elastic reaction is disposed between the film member and the door plate and are fixed to the film member.

6. An air passage switching device according to claim 5, wherein the elastic pressing means is slender and extends parallel with the sliding direction of the sliding door.

7. An air passage switching device according to claim 5, wherein the elastic pressing means is plate shaped and substantially matches a shape of the film member.

8. An air passage switching device according to claim 5, wherein an amount of elastic compression of the elastic pressing means during assembly is set in a range of 0 to ± 1.5 mm.

9. An air passage switching device according to claim 1, wherein the film member comprises a film base layer and a low-friction material layer provided on a side of the film base layer to slide over the edge seal faces and the end faces of the grill members.

10. An air passage switching device according to Claim 1, further comprising an air conditioner having air passages that open and close with the sliding door for supplying air to a passenger compartment of the vehicle.

11. An air passage switching device according to claim 1, wherein said opening is at least two grill member formed in said air passage, said grill members parallel with a sliding direction of the sliding door, said sliding door being a plate shaped door that slides

from each of said two grill members to the other to selectively open one of said grill members and close another of said grill members.

12. An air passage switching device according to claim 1, wherein said door member supports said film member along a curved periphery, said opening having a curved periphery matching that of said film member.